

M 200 1,375

Work Order ID 86307

June-26-12 3:40:39 PM

86307

Page 1

Item ID: D3689-1

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: SLEEVE

Stop

NS2

Start Date: 26/06/2012 Start Qty: 16.00

16

Cust Item ID:

Required Date: 10/07/2012 Req'd Qty: 16.00

16

Customer:

Reference:

Approvals:

Process Plan: MLJ

Date: 12/06/27

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D3689

Rev B

100

0.00

100

DOOSAN LATHE

Doosan

Memo

0.00

Doosan Lathe

1- Turn as per Folio FA722 Rev: & Dwg D3689 Rev: 13-2-12
2-CHECK THREAD WITH GO-NO GO GAUGE DT9450 A & B
3-Deburr per dwg D3689

16 13-2-12 DAS 13-89

110

0.00

110

QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

16 13-2-12 DAS 13-89

120

0.00

120

CONVENTIONAL MILLING MACHINE

Mill Conv

Memo

0.00

Conventional Milling Machine

C'sink .188" holes as per dwg D3689

16 13-2-12 DAS 13-89

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval ¹ QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Page 2

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16

Cust Item ID:

Required Date: 10/07/2012 Req'd Qty: 16.00

16

Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:

Run Start *NR1*

QC: Date: SPC (Y/N): Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	QC2- Inspect parts off machine FAI/FAIB	0.00							
130									
QC	Memo	0.00							
Quality Control									

140	QC8- Inspect parts - second check	0.00							
140									
QC	Memo	0.00							
Quality Control	100% CHECK,CHECK ALL DIMENSIONS AND THREAD FIT								

150	PURCHASING	0.00							
150									
Purchasing	Memo	0.00							
Purchasing	Issue P/O: 19211								
	LPI Per ASTM 1417 LEVEL 2								
	Certificate of conformaty is required								

16 13-2-12 16 13-2-27 16 13/03/01

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval ¹ QC Inspector	

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Work Order ID 86307

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Page 3

June-26-12 3:40:39 PM

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16

Cust Item ID:

Required Date: 10/07/2012 Req'd Qty: 16.00

16

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

160

Receive & Inspect for Damage & Mat'l Certs

0.00

160

Packaging

Memo

0.00

Packaging

Ensure certificate of conformity is attached

16/3/3/01 (16)

170

QC5- Inspect part completeness to step on W/O

0.00

170

QC

Memo

0.00

Quality Control

16 DAS 05 13-03-05

180

Identify as per dwg & Stock Location: GA

0.00

180

Packaging

Memo

0.00

Packaging

16x 13-3-5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval ² QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

Work Order ID 86307***86307***

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June-26-12 3:40:39 PM

Item ID: D3689-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: SLEEVE

Start Date: 26/06/2012 Start Qty: 16.00

16

Cust Item ID:

Required Date: 10/07/2012 Req'd Qty: 16.00

16

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	QC21- Final Inspection - Work Order Release	0.00							
190									
QC	Memo	0.00							
Quality Control									

13/4/5 20

mf

13-3-5

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval ² QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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NOTE: Date & initial all entries

Picklist Print

June-26-12 3:40:43 PM

Page 1

Work Order ID: 86307

86307

Parent Item: D3689-1

D3689-1

Parent Item Name: SLEEVE

Start Date: 26/06/2012

Required Date: 10/07/2012

Start Qty: 16.00

Required Qty: 16.00

Comments: IPP Rev:A New Issue 08-02-11 JLM Verified By:EC
 IPP Rev:B Material Change 09-01-07 JLM Verified By:EC
 IPP Rev:C Add note on material cutting JLM Verified By:JM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

M174PH-H900R1.375

Purchased

No

100

f

73.0007

0.5

8.421053

**

13-2-12

DAS
13
2-89

M174PH-H900R1 375

17-4 SS H900 ROUND BAR 1.375

Location

Loc Qty

Loc Code

MAT030

73.0007

111123

12.7507

121280 ✓

36.25

121918

24

3 84
3 24

3 84

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval ² QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	86307
Description: Sleeve		Part Number:	D3689-1
Inspection Dwg: D3689	Rev: B	Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
1.90	+/-0.030	1.90	/		SA.4	Ver
Ø0.768	+/-0.010	Ø.768	/			
Ø0.063	+0.005/-0.001	.063	/			
R0.06	+/-0.030	R.06	/			
3/4-16UNF-2B	N/A		/			
0.035 x 45°	+/-0.010 x 0.5°	0.035 x 45°	/			
1.5	+/-0.030	1.5	/			
1.35	+/-0.030	1.352	/			
Ø0.188	+0.005/-0.001	.181	/			
90°	0.5°	90°	/			
Ø0.250	+/-0.010	.248	/			
Ø1.075	+0.000/-0.015	1.069	/			
1.13	+/-0.030	1.129	/			
4.00	+/-0.030	4.003	/			

Measured by: ^{DA} 13	Audited by: ^{SK}	Prototype Approval:	N/A
Date: 13/2/12	Date: 13-2-27	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	09.05.11	New Issue	KJ	

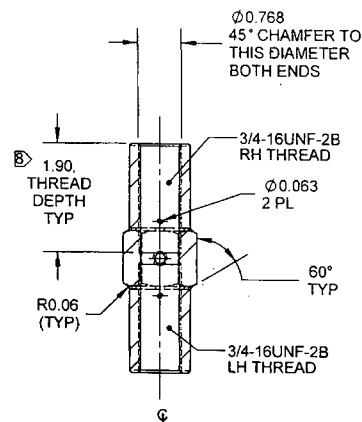
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

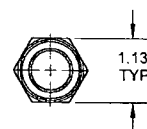
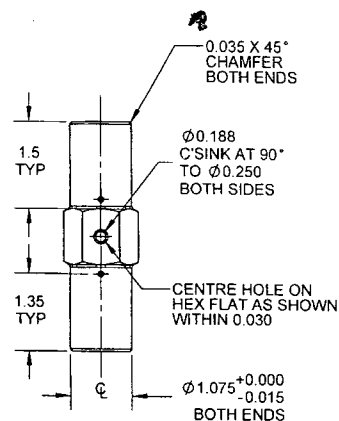
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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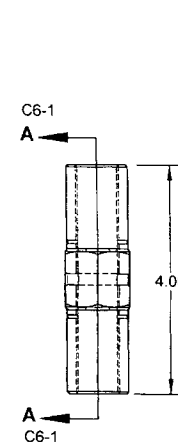
NOTE: Date & initial all entries



SECTION A-A
D3-1



D3689-1 SLEEVE



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT

WITHOUT NOTICE
WORK ORDER
NO. 86307 MLW
12/06/27

RELEASED
08/12/15 MB

- NOTES:**
- 1) MATERIAL: 17-4PH STAINLESS STEEL ROUND BAR PER AMS 5643 H-900 CONDITION
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 0.67 lb
 - 8) DIMENSION SHOWN IS MINIMUM DEPTH OF FULL THREAD
 - 9) LPI PER ASTM 1417 LEVEL 2

B	CHANGE TO 17-4PH H-900 (ZN A8-1); REFORMATTED TO CURRENT DWG STANDARDS	RF	08.11.24
A	NEW ISSUE	RF	08.05.22
REV.		BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<u>97</u>	DRAWING NO.	REV. B
MFG. APPR.	<u>27</u>	D3689	SHEET 1 OF 1
APPROVED	<u>11</u>	TITLE	SCALE
DE APPR.	<u>11</u>	SLEEVE	NTS
DATE	08.11.24	<small>COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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NOTE: Date & initial all entries



LIQUID PENETRANT TEST REPORT

P- 10199

PAGE 1 OF 1

CLIENT Dart Aerospace DATE Feb 28 2013 TIME AM ☒ PM ☐
ATTENTION Chantale Lynda, Andy ACUREN JOB NO. 188-13-C0223
ADDRESS 1270 Aberdeen St, POWO No. 19211
Hawkesbury, on WORK LOCATION As Address
ACCEPTANCE STD. Astm 1417/AS1230 REV./DATE 2005
PROJECT Pt-wet Fluorescent Liquid penetrant Inspection.
ITEM(S) EXAMINED -See Below

JOB DESCRIPTION PROCEDURE No. LT-002 REV./DATE 2009 TECHNIQUE No. LT-002 REV./DATE 2009
PART NO. MATERIAL Aluminium / s/s THICKNESS N/A
SCOPE Performed a wet Fluo L.P.I on 100% of the external surface on
Items mentioned Below

TEST DETAILS

METHOD ☒ FLUORESCENT ☐ VISIBLE ☒ WATER WASH ☐ SOLVENT REMOVABLE ☐ POST EMULSIFIED
FAMILY BRAND MagnaFluo BLACK LIGHT S/N B790 ☐ OUTPUT > 1000 μ W/cm² ☐ AMBIENT < 2 fc
PENETRANT ZL-87 MINIMUM DWELL TIME 45 MIN. LIGHTING EQUIP. ☐ FLASHLIGHT ☐ TROUBLELIGHT ☐ OUTPUT > 100 fc @ SURFACE
PENETRANT REMOVER H₂O MINIMUM DRY TIME >10 MIN. OTHER
DEVELOPER SKO-52 MINIMUM DWELL TIME 80 MIN. LIGHT METER S/N 1098866 CAL DUE DATE oct 2013
DEVELOPER TYPE ☒ NON AQUEOUS ☐ AQUEOUS ☐ DRY

TEST SURFACE

SURFACE CONDITION ☐ AS GROUND ☐ AS WELDED ☒ MACHINED ☐ SHOT BLASTED ☒ CLEAN BARE METAL
SURFACE TEMPERATURE ☐ < - 4°C/ 20°F ☐ - 4°C/ 20°F TO 10°C/50°F ☒ 10°C/50°F TO 52°C/125°F ☐ > 52°C/125°F

RESULTS- (☐ METRIC ☐ IMPERIAL)

ITEM	COMMENTS	ACCEPT	REJECT
1	Crossstube Fwd W.O.I.D 96733	✓	
2	Crossstube Fwd W.O.I.D 97426	✓	
3	Crossstube Fwd W.O.I.D 97427	✓	
4	Crossstube Fwd W.O.I.D 97429	✓	
5	16 X Sleeve W.O.I.D 86307	✓	
6	10 X Stud w.o.i.d 96694	✓	
7	40 X Stud w.o.i.d 96696	✓	

No Relevant Indication was detected As per applicable standard at the time of Inspection.

Scope of Services

The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.

Standard of Care

In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

SIGNATURES

CLIENT REPRESENTATIVE Andy Sheldon PRINT ASheldon SIGNATURE DTR # E-120392
TECHNICIAN (SIGNATURE): Alexandre Michaud SIGNATURE REPORT REVIEWED BY:
NAME (PRINT): Alexandre Michaud 1st TECHNICIAN 2nd TECHNICIAN
CGSB LEVEL 2 SNT LEVEL 2 CGSB LEVEL SNT LEVEL
CGSB REG. No 10148 CGSB REG. No